

Notice of Allowability

Application No.

10/762,426

Applicant(s)

WEISS ET AL.

Examiner

Vinod D. Patel

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/20/05.
2. ☒ The allowed claim(s) is/are 1, 3-10, 12-16.
3. ☒ The drawings filed on 22 January 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

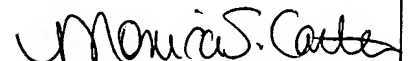
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/22/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


MONICA S. CARTER
PRIMARY EXAMINER

INTRODUCTION

1. Applicant's election without traverse of claims 1-16 in the reply filed on 4/20/05 is acknowledged.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert P. Renke on 6/8/05 and 6/27/05.

The application has been amended as follows:

In the claims;

2. This application is in condition for allowance except for the presence of claim 17-20 to Inventions II and III, non-elected without traverse. Accordingly, claim 17-20 has been cancelled.
3. Claims 1-16 have been replaced with following claims.

1. (Amended) An apparatus comprising:

at least one flexible heating resistor element and at least two flexible supply electrodes arranged at a distance from each other and at least partly embedding the heating resistor element between them to form a layered structure,

the supply electrodes being arranged to permit a flow of current directed essentially parallel to a vertical extent of the layered structure; and at least one contacting member including at least two supply conductors electrically coupled to the supply electrodes, the supply conductors spanning the heating resistor element in at least one planar direction of the layered structure, the contacting member being adapted to convey a voltage potential to the supply electrodes by way of the supply conductors, wherein the heating resistor element and the supply electrodes each include a plurality of recesses formed therein in the direction of the vertical extent of the layered structure, and wherein the plurality of recesses in the heating resistor element and supply electrodes are congruently arranged to form a plurality of webs, the webs and recesses forming a net-like layered structure.

2. (cancelled)

3. An apparatus according to claim 1 wherein the net-like structure is stretched in at least one direction perpendicular to the vertical extent of the layered structure.

4. An apparatus according to claim 1 wherein the heating resistor element comprises a material having a positive temperature coefficient (PTC) effect.

5. An apparatus according to claim 4 wherein the PTC material limits a temperature range of the heating resistor to between approximately 35.degree. C. and 90.degree. C.

6. An apparatus according to claim 4 wherein the PTC material limits a temperature range of the heating resistor to between approximately 70.degree. C.

C. and 80.degree. C.

7. An apparatus according to claim 5 wherein the heating resistor element is a carbon black coated polymer, and is approximately 0.5 mm to 1.0 mm thick.

8. An apparatus according to claim 1 wherein at least one of the supply electrodes comprises an electrically conductive textile selected from the group consisting of: knotted, woven, knitted or fleeced fabrics.

9. An apparatus according to claim 1 wherein at least one of the supply electrodes comprises a metallic or metallically coated film.

10. An apparatus according to claim 1 wherein the supply electrodes are integrally coupled to the heating resistor element.

11. (cancelled)

12. An apparatus according to claim 1 wherein the supply conductors are arranged essentially parallel on the heating resistor element at uniformly spaced intervals.

13. An apparatus according to claim 1 wherein each supply conductor spans several adjacent webs.

14. An apparatus according to claim 1 wherein the heating resistor element and at least one of the flexible supply electrodes are different colors.

15. An apparatus according to claim 1 comprising a covering layer sealing both sides of the layered structure.

16. An apparatus according to claim 1 wherein the layered structure is coupled to a vehicle seat pad by a seat cover.

Allowable Subject Matter

4. Claim 1, 3-10 and 12-16 are allowed.
5. The following is an examiner's statement of reasons for allowance:

Although the prior art is replete with teachings of flexible heating resistor, the prior art does not teach to one of ordinary skill in the art, and in combination with the other limitations of the independent claims, a heater comprising at least one contacting member including at least two supply conductors electrically coupled to the supply electrodes, the supply conductors spanning the heating resistor element in at least one planar direction of the layered structure, the contacting member being adapted to convey a voltage potential to the supply electrodes by way of the supply conductors, wherein the heating resistor element and the supply electrodes each include a plurality of recesses formed therein and wherein the plurality of recesses in the heating resistor element and supply electrodes are congruently arranged to form a plurality of webs, the webs and recesses forming a net-like layered structure.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. de la Bretoniere (US4538054) relates to electric heating fabric, Gurevich (US6057530) relates to fabric heating element and method of manufacture, Kochman (US6229123, US6713733) relates to soft electrical textile heater and method assembly, Partington (US5723845) relates to automotive seat with co-woven heating elements, Kochman

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(US5824996) relates to electro conductive textile heating element and method of manufacture,
Tanaka (US5298722) relates to tire warm up wrap.

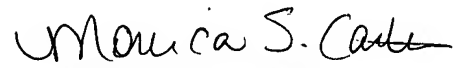
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod D. Patel whose telephone number is 571-272-4785. The examiner can normally be reached on 7.30 A.M. TO 4.00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP
June 9, 2005


Vinod Patel
Patent Examiner


MONICA S. CARTER
PRIMARY EXAMINER